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ABSTRACT

A brief introduction to futures education, an annotated listing of resources, and three ready-to-use student activities are provided. The introduction discusses the benefits of futures education; for example, it encourages students to make responsible decisions about the future. Next, it lists a variety of techniques developed by futurists to examine a range of probable futures--scenarios, futures wheels, cross-impact materials, Delphi polling, trend extrapolation forecasting, and relevance trees. Following the introduction, eight specific resources are listed, including a guide, teaching model, journal, report, and article. Then three learning activities are listed. The first activity sheet suggests seven activities to help students get involved with the future. For example, students can write a scenario of the world in the year 2003, concentrating on a list of topics provided. In the second activity, students are asked to list future consequences should certain given future developments occur. In the third activity, students are asked to respond to 50 questions designed to stimulate future thinking. (RM)

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Teacher's Guide to the Future

Future shock or future planning? These seem to be the choices, as we witness—and experience—rapid technological and social changes. While the positive changes, such as new modes of transportation, home computers, worldwide communication systems, and medical advances receive the most notice, the negative changes—rapid population growth, environmental deterioration, resource depletion, and the nuclear arms race—evoke the most concern for the world's future.

Out of this interest has grown futures education, based on the idea that students should prepare for life in a constantly changing world. Futures educator Gary Woodell has stated, "The basic assumption which underlies all futures education is that the future will not be the same as the past, or even the present."[1] Therefore, futures education stresses skills that will help students recognize the important issues of today and make decisions about their potential impact on the future. Above all, it is designed to make students feel more comfortable about and better able to deal with complexity and change.

How can students learn about the future when it is unknown? Because no one can predict the future, futurists have developed a variety of techniques to examine a range of *probable* futures. These have been adapted for futures education.

Scenarios, futures wheels, cross-impact matrices, Delphi polling, trend extrapolation forecasting, and relevance trees are some of the techniques distinct to futures education.

[1]Gary D. Woodell, "Educating for Uncertain Futures," *World Future Society BULLETIN*, (Sept./Oct. 1981), p. 21.

As is true of population education, inquiry and problem-solving activities are also prominent. The emphasis is on activities that will help develop a student's creativity, imagination, and ability to integrate different kinds of information.

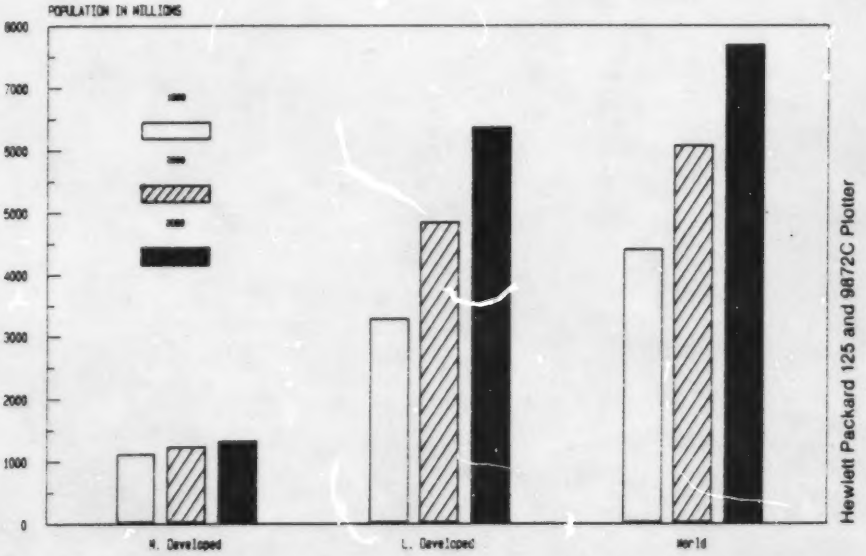
There would be no point to studying the future if nothing could be done to prevent or modify some of the foreseeable problems. The benefit of futures education is that it encourages students to make responsible decisions about the future. They develop a sense of having some power over the future, which counteracts fatalism—a too frequent response to large-scale change. Futures education provides a kind of realistic optimism about what otherwise would be considered gloomy topics.

Where does population fit into futures education? Futures education doesn't concentrate on one particular subject. Almost any topic with a future dimension can be studied. However, futures educators Robert Fitch and Cordell Svengalis have identified several major themes which dominate futures education: "environmental problems, energy alternatives, global issues (e.g., the search for world order, third world development, population and food supply), the promises and hazards of technology, and the effects of change."[2]

[2]Robert M. Fitch and Cordell M. Svengalis, *Futures Unlimited: Teaching About Worlds to Come*, Bulletin 59 (Washington, D.C.: National Council for the Social Studies, 1979), p. 25.

(continued on page two)

WORLD POPULATION 1980 - 2020



M. Developed = More Developed Countries L. Developed = Less Developed Countries

This issue of *Interchange* features ready-to-use activities for educators who would like to add a futures dimension to their courses. Student activity sheets #1 and #2 can be reproduced for each student or used at a "futures learning center" or on a bulletin board. The "Fifty Heady Questions" can be used in several ways, using various chunks of time. Our thanks to John Eggers of the University of Northern Iowa for these thought-provoking ideas. There is also a list of excellent resources. Those readers who would like more than this brief introduction to futures education should consult these resources.

Resources

The list of resources below is by no means an exhaustive one. Readers are urged to consult the extensive bibliographies provided in *The Future: A Guide to Information Sources, Futures Unlimited: Teaching About Worlds To Come, Teaching the Future: A Guide to Future-Oriented Education,* and the *World Future Society Book Catalog.*

- **The Future: A Guide to Information Sources** (revised 2nd edition). World Future Society (4916 St. Elmo Ave., Bethesda, MD 20814). 1979; 722 pp. $25.00 (add $1.50 shipping/handling fee per order).

A guide to more than 2000 information sources on the future, including organizations, books, periodicals, individuals, and education programs.

- **The Future and Population: What Will a No-Growth Society Be Like?** by Elaine M. Murphy. Population Reference Bureau (1337 Connecticut Ave., NW, Washington, DC 20036). 1978; 13 pp. $1.00 (add a $1.00 shipping/handling fee per order).

A teaching module which looks at some of the issues that may confront countries when their populations stop growing. It contains a student reading and a variety of classroom activities.

- **Futures Unlimited: Teaching About Worlds To Come** by Robert M. Fitch and Cordell M. Svengalis. Bulletin 59 of the National Council for the Social Studies (3501 Newark St., NW Washington, DC 20016). 1979; 83 pp. $7.25 (add $2.50 shipping/handling fee per order).

Provides a good introduction to futures education with descriptions of the field and the education techniques particular to it, activities, and

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methods for designing and evaluating a futures education curriculum.

- **The Futurist: A Journal of Forecasts, Trends, and Ideas About the Future.** World Future Society (address above). Sent to members ($20 annual membership fee) or available by subscription for $20 per year.

A bimonthly magazine which contains articles by experts on a variety of futures topics.

- **The Global 2000 Report to the President: Entering the Twenty-First Century,** Volume One: The Summary Report. Prepared by the Council on Environmental Quality and the U.S. Department of State. U.S. Government Printing Office (Washington, DC 20402). Stock No. 041-011-00037-8. 1980; 47 pp. $3.50.

A government study of the "probable changes in the world's population, natural resources, and the environment through the end of the century."

- **Making It Happen: A Positive Guide to the Future,** edited by John M. Richardson, Jr. The U.S. Association for the Club of Rome (1735 DeSales St., NW, Washington, DC 20036). 1982; 232 pp. $9.95 (add $1.30 shipping/handling fee).

A collection of articles on future lifestyles, politics, the environment, and other topics. The articles provide readers with both important information and a sense of the choices they have regarding the future. A good book for students.

- **1982 World Population Data Sheet,** prepared by Carl Haub. Population Reference Bureau (address above). $1.00 (add $1.00 shipping/handling fee per order).

A wall chart with current and projected population and development statistics for the world, its major regions, and 170 countries. A good tool for teachers and students.

- **"Our Population Predicament: A New Look"** by Jean van der Tak, Carl Haub and Elaine M. Murphy. Population Bulletin, Vol. 34, No. 5. Population Reference Bureau (address above). 1979; 48 pp. $3.00 ($1.00 shipping/handling fee per order).

A survey of the population situa-

(continued on page six)

Brainstorming and Futures Education

Brainstorming is an excellent technique for stimulating creative thinking when its possibilities are fully exploited. The basic recipe for brainstorming is: throw out a question to the class and ask students to call out answers. Write each answer on the board, or better yet, ask a student to be the "scribe." For example, ask "How will the problem of rapid population growth be solved?" Students might answer "We'll find a miracle food that never runs out" or "There will be a new birth control pill to be taken once a year" and so forth.

Among the rules for brainstorming are:

1. Do not take time to evaluate ideas as they emerge. Be non-judgmental and simply record them. Suspend criticism.
2. Encourage "far-out" and wild ideas. Such "off-beat" suggestions may not be practical in themselves, but they may trigger other more useful ideas.
3. Encourage quantity. The more ideas which emerge the greater likelihood that some of them will be useful.
4. Encourage "piggy-backing" on one another's ideas in order to produce new combinations and possibilities.

Source: Robert M. Fitch and Cordell M. Svengalis, *Futures Unlimited: Teaching About Worlds to Come.* Bulletin 59. (Washington, D.C.: National Council for the Social Studies, 1979), p. 37.

Fifty Heady Questions Bound To Stimulate Future Thinking or What To Ask Your Kids When You Have Time To Kill

By John R. Eggers
University of Northern Iowa

Even the best teachers need "fill ins." Here are 50 of the best one-line questions you could ask your students, relating to a top priority topic that is right up their alley—namely, the future.

Asking students these questions before milk break, at the end of class, before recess, etc. is a win-win technique because:

1. Students have a personal interest in the future.

2. Rather than having kids put their heads down and rest and wait quietly for the bell to ring, you are using time to the maximum.

3. The best lessons are ones which end on a high note. Using these questions at the end of the lesson can serve to accomplish a "hey, let's do that again!" attitude because of their high interest value.

4. You will be incorporating the most important topic currently left out of the school curriculum into your teaching and you will be doing it without spending an additional dime.

5. Students will see a relationship between talking about the future and the class in which they are enrolled. In other words, you do not need a course in future studies in order to talk about the future. It can and should occur in reading, physical education, home economics, math, etc.

6. Are you looking for a way to cope with burn-out? What better way could there be than to feel you can make a difference in the lives of kids. How? By helping kids to cope with tomorrow today.

Teaching Suggestions

Here are a few suggestions on how to use the questions:

- Pose the questions to the class as a whole and then randomly select individual students to answer.
- Divide the class into small groups and pose the questions to each group; each group must come up with a consensus response.
- Put each question on a card and have the student who draws the card choose another student to answer it.
- Ask a question and have your students report on their response the next day or whenever you have time to kill.

So, breathe a sigh of relief! If you are looking for something to do with your kids during those unplanned five minute time lags, here it is: everything you could possibly think to ask your kids about the future.

1. In what year will you become a grandparent?
2. What will you do on the first day of your retirement?
3. What will be the title of the best movie in the year 2001?
4. What is the first question you will ask your home computer?
5. What color would your dream about the future be? Why?

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6. What would be the title of your nightmare about the future?
7. What will be the worst problem facing children of your age 15 years from now?
8. How is a roller coaster like the future?
9. What will be the best way to invest money in 1990?
10. What will be the most popular spectator sport in 2015?
11. In what type of employment will you make your first $100?
12. What would you suggest for a motto to be inscribed on a planet earth coin?
13. What different courses will students be taking 10 years from now?
14. Name things you have now in your home that you didn't have five years ago? What new things will your home have five years from now?
15. What will be the biggest issue in the 1992 presidential election?
16. What will be the most important discovery in the 1980s?
17. What will be the greatest disaster in this decade?
18. How much will your weekly grocery bill be when you are 25 years old?
19. You have been granted one wish to improve your personal life 10 years from now. What would it be? What would be a wish that could improve your family? A wish that could improve life for everyone?
20. Do you think you will live longer than your parents or grandparents? Why?
21. Would you want to accurately predict the future? Why or why not?
22. When will you or a relative of yours travel in outer space?
23. By what means will you travel to work when you are 30 years old?
24. When will gasoline no longer be available?
25. How would you learn if there were no schools?
26. Will the world ever rid itself of starvation? If yes, how? If no, why not?
27. What things will children have 20 years from now that you wish you had had?
28. What will be the most popular recreational sport in 1995?
29. If you could have one person in history visit you now and discuss how the world should solve its problems, who would it be? What advice would he/she give?
30. What will a modern house of 2011 look like?
31. Will people be more or less physically fit by the year 1995?
32. What will be the most famous artifact found by archeologists in the year 2500?
33. If you were to make a time capsule to be opened 200 years from now, what five photographs would you include?
34. What will be three new words originated in the year 1988?
35. What will be the most popular toy parents will buy for children 12 years from now?

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Student Activity Sheet #2

Future Developments—Future Consequences

The following developments, should they occur, would have some impact on the future nature of our population. For each development, provide three or more consequences (an example is given for the first development). For each consequence, check the box which best describes your opinion of the likelihood of that consequence occurring and the effect of the consequence, should it occur. In the last box, give your reasons for evaluating the consequence as you did (e.g., *why* would the effect of the consequences be "very favorable"?). Use another sheet of paper if you need more room for your answers.

If these developments were to occur:	They might result in the following consequences:	How likely is it the consequence will occur?				What would be the effect of the consequence?					Explain why you evaluated the consequence's effect as you did.
		Certain	Probable	Possible	Almost Impossible	Very Favorable	Favorable	Little, No Import	Detrimental	Very Detrimental	
1. A method of choosing the sex of a child prior to conception is developed.	a. Many more boys than girls are born.										
	b.										
	c.										
2. The legal age of marriage is raised to 25 for men and women.	a.										
	b.										
	c.										
3. The number of people allowed to immigrate to this country is reduced to 50,000 per year.	a.										
	b.										
	c.										

This activity is based on the "Development—Consequence Activity" described in *Futures Unlimited: Teaching About Worlds To Come* by Robert M. Fitch and Cordell M. Svengalis. Bulletin 59 (Washington, D.C.: National Council for the Social Studies, 1979), p. 41.

Get Involved With the Future

Choose one or more or the activities below. Share your completed work with the whole class.

1. Write a scenario or description of the world in the year 2003. Concentrate on one of the topics below.
2. Develop a script or outline for a movie on life in the year 2013. Include several of the topics below.
3. Develop a script or outline for a movie on life in the year 2113. Include several of the topics below.
4. Pretend it is the year 2013. Write a "letter from home" to your son or daughter who is away at school, describing how things are. Or, be the student away at school, writing home, describing how your life is at school. Include several of the topics below.
5. Develop an advertising campaign for a product popular in the year 2000. Describe the product, the theme of the advertisements, the motivations to which they appeal (status, sex, materialism, comfort, etc.) and the media which will be utilized.
6. Develop a comic strip which might be popular in the year 2005. The comic strip should reflect some of the changes which may occur by that time in one or more of the topics below.
7. Write 10 "Help Wanted" ads reflecting jobs you believe would be available in the year 2005. Reflect some of the changes in the topics below.

Topics

population change
population distribution
immigration
energy
agriculture
food
the oceans
fishing
minerals
water
forests
wildlife
open space
the surface of the earth
climate
the uses of space
technology in general
communication technology
computers
the media
private transportation
public transportation
education of young people
adult education
entertainment
advertising
bill-paying or credit
privacy
leisure
city and town planning
individual rights
taxes
military service
warfare
terrorism
international relations
global cooperation
government and politics
employment/unemployment
new kinds of jobs
scientific advances
inventions
the state of medicine and health care
genetic engineering—human, animal and plant
aging
family life/marriage/divorce
relationships between men and women
sexism
new living arrangements
child care
racism
poverty/wealth

Resources

(continued from page two)

tion in the world. Contains numerous charts, graphs and tables.

- **"Perspectives on the Future,"** National Forum, Vol. LXI, No. 3. Honor Society of Phi Kappa Phi (Box 16000, Lousiana State University, Baton Rouge, LA 70893). Summer 1981; 48 pp. $2.75.

A special issue on the future with articles by well-known futurists Alvin Toffler and Hazel Henderson, science fiction writer Frederick Pohl, environmentalist Erik Eckholm, and others.

- **Teaching the Future: A Guide to Future-Oriented Education** by Draper L. Kaufmann, Jr. ETC Publications (Drawer 1627-A, Palm Springs, CA 92262). 1976; 298 pp. $8.95.

A guide for teachers of all levels to the field of futures education. Contains a variety of activities and an extensive bibliography.

- **Through the '80s: Thinking Globally, Acting Locally,** edited by Frank Feather. World Future Society (address above). 1980; 431 pp. $12.50 ($1.50 shipping/handling fee per order).

A selection of papers delivered at the World Future Society's Third General Asembly in 1980. Includes papers on economics, change, human values, communication, and resources.

- **"U.S. Population: Where We Are; Where We're Going"** by Population Reference Bureau Staff and Guest Experts. Population Bulletin, Vol. 37, No. 2. Population Reference Bureau (address above). 1982; 51 pp. $3.00 ($1.00 shipping/handling fee per order).

A review of recent U.S. population trends and dynamics, with a special section by guest experts on the outlook for the remainder of the 1980s.

- **World Future Society Book Catalog.** World Future Society (address above). 1982; 16 pp. Free.

The catalog of the World Future Society Book Service, containing over 300 books on the future.

- **World Population: Toward the Next Century** by Elaine M. Murphy. Population Reference Bureau (address above). 1981; 17 pp. $1.00 ($1.00 shipping/handling fee per order).

A self-contained student module with a student reading on the current and projected world population situation, the 1981 World Population Data Sheet, and a variety of activities, research topics, and references.

New from PRB

To know where you're going, you've got to know where you are. PRB's new **State Population Profiles** will provide you with a concise summary of your (or any) state's basic demographic and social data. The information is arranged by category—fertility, housing, income, etc.—with over 100 items in all. Profiles are prepared separately for each state and are six to 10 pages in length. Each state profile is $5.00; additional copies of the same state are $2.00 each. Add a $1.00 shipping/handling fee for orders under $20.00. Send your check and order to the Population Reference Bureau, Inc., P.O. Box 35012, Washington, D.C. 20013.

Fifty Heady Questions

(continued from page three)

36. When your children are five years old, what will their favorite TV program be?
37. What new holiday will originate in the year 2010, and what will it commemorate?
38. What will your favorite hobby be in the year 1993?
39. What new thing will the mind be able to do 15 years from now?
40. What will a fad of the 1980s be?
41. A science fiction story of 10 years ago will actually occur 10 years from now. What is it?
42. What is your greatest fear about the future?
43. What will your children remember about their childhood years?
44. What famous historical event will repeat itself in the next 15 years?
45. How many grandchildren do you expect to have?
46. Why are your parents looking forward to their future?
47. What will be a new occupation in the year 1996?
48. Today we have an information overload. What type of overload will we have in 1989?
49. What will you be doing 20 years from right now?
50. What is a word describing the future that begins with the first letter of your name?

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Are you interested in rounding out your INTERCHANGE collection? Back issues of INTERCHANGE and the TEACHING TOOL are available for $1.00 each, unless otherwise indicated. Two or more copies are 75¢ each. Titles include:

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- "Population and Hawaii: A Case Study," November 1980
- "U.S. Population Data Teaching Package," March 1981 (single copy, $2.00; 2 or more, $1.75 each)
- "Growing Old in America," September 1981 (single copy, $2.00; 2 or more, $1.75 each)
- "World Population: Toward the Next Century," November 1981
- "Population Education: An Audio-visual Approach," December 1981
- "Children: A Constant Concern" with the 1982 World's Children Data Sheet, April 1982
- "Immigration: Questions and Answers," July 1982
- "Resources and More Resources," September 1982

If you find INTERCHANGE interesting and useful, you would probably enjoy receiving other Population Reference Bureau publications: INTERCOM, the bi-monthly population news magazine; POPULATION BULLETIN, a quarterly in-depth study of one population topic; WORLD POPULATION DATA SHEET, an indispensable survey of 13 variables on 170 nations.

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To join, simply send your name, address and school affiliation if different from address), and check to: Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013.

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a publication of the Population Reference Bureau, published quarterly during the academic year. This issue was written by Elaine M. Murphy and Patricia Cancellier. Educators may receive a one-year free subscription to Interchange *upon request. The purpose of the newsletter is to further the goal of infusing population materials into U.S. schools by: (1) presenting information on population-related issues; (2) distributing classroom materials; (3) reviewing developments in the field of population education. Interchange depends upon an exchange of information and ideas and thus openly solicits correspondence from its readers.*

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